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Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/672,607 | RAJKOTIA ET AL. | |
| | Examiner | Art Unit | |
| | Olivia Marsh | 2686 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection. Please review below rejection for full explanation.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayeedi (U.S. 2003/0129980 A1) in view of Bonta *et al* (U.S. 2004/0063451).**

As to **claim 1**, Sayeedi discloses a wireless communications system 100, reading on claimed "wireless communication system," comprising a mobile switching center 132, base stations 106, 138, reading on claimed "at least two base stations," and a mobile station 102 (Figure 1, para. 19-20), reading on claimed "one mobile station." Sayeedi also discloses an apparatus includes a base station that receives a registration request from the network that requests that the mobile station be instructed to register, transmits a registration order to the mobile station that instructs the mobile station to register with the network, receives a registration message from the mobile station, conveys a location update request to the network that requests an update of a location of the mobile station, and receives, from the network, a location update confirmation message that confirms an updating of the location of the mobile station (para. 15), reading on claimed "apparatus for providing mobile station registration, wherein the apparatus comprises: at least one base station that is capable of receiving at least one mobile station registration message from at least one mobile station; and at least one mobile station that is capable of sending at least one mobile station registration message to least one base station."

Sayeedi also discloses each BS 106, 138 provides communications services via a forward link 150 and a reverse link 158 to mobile stations located in a coverage area serviced by the BS (para. 19). Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27). However, Sayeedi fails to disclose an apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station registration is complete*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

In the same field of endeavor, Bonta teaches relaying information within an ad-hoc cellular network (paragraph 1). Bonta also teaches upon receipt of the registration message from the slave mobile unit, all relay nodes, also reading on claimed "apparatus," will attempt to send a cellular registration message directly to infrastructure equipment 106 and this registration message will include the mobile identity (IMSI or TMSI) of the out-of-coverage mobile unit embedded within its own LOCATION UPDATE message (paragraph 29), reading on claimed "apparatus for providing mobile station registration." Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for delivery via the traffic channel (paragraph 31) and when infrastructure equipment 106 receives the registration message, it will record the registration information in database 203 (step 313), reading on claimed "apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at

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least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station registration is complete.*”

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the wireless communication system and apparatus for use in a wireless communication system comprising a mobile switching center, at least two base stations and at least one mobile station, an apparatus for providing mobile station registration, wherein the apparatus comprises: at least one base station that is capable of receiving at least one mobile station registration message initiated from at least one mobile station; and at least one mobile station that is capable of sending at least one mobile station registration message to least one base station, disclosed by Sayeedi, apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station registration is complete*, as taught by Bonta, to order to insure the successful delivery of incoming calls to the mobile user.

As to **claim 8**, Sayeedi discloses a wireless communications system 100, reading on claimed “wireless communication system,” comprising a mobile switching center 132, base stations 106, 138, reading on claimed “a mobile switching center and a plurality of base stations capable of communication with a plurality of mobile stations,” and a mobile station 102 (Figure 1, para. 19-20). Sayeedi also discloses an apparatus includes a base station, reading on claimed “apparatus,” that receives a registration request from the network that requests that the mobile station be instructed to register, transmits a registration order to the mobile station that instructs the mobile station to register with the network, receives a registration message from

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the mobile station, conveys a location update request to the network that requests an update of a location of the mobile station, and receives, from the network, a location update confirmation message that confirms an updating of the location of the mobile station (para. 15), reading on claimed "apparatus for providing mobile station registration, wherein the apparatus comprises: at least one base station of said plurality of base stations that is capable of receiving at least one mobile station registration message from at least one mobile station of said plurality of mobile stations; and at least one mobile station of said plurality of mobile stations that is capable of sending at least one mobile station registration message to least one base station of said plurality of base stations."

Sayeedi also discloses each BS 106, 138 provides communications services via a forward link 150 and a reverse link 158 to mobile stations located in a coverage area serviced by the BS (para. 19). Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27). However, Sayeedi fails to disclose an apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station registration is complete*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

In the same field of endeavor, Bonta teaches relaying information within an ad-hoc cellular network (paragraph 1). Bonta also teaches upon receipt of the registration message from the slave mobile unit, all relay nodes, also reading on claimed "apparatus," will attempt to send a cellular registration message directly to infrastructure equipment 106 and this

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registration message will include the mobile identity (IMSI or TMSI) of the out-of-coverage mobile unit embedded within it's own LOCATION UPDATE message (paragraph 29), reading on claimed "apparatus for providing mobile station registration." Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for delivery via the traffic channel (paragraph 31) and when infrastructure equipment 106 receives the registration message, it will record the registration information in database 203 (step 313), reading on claimed "apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station registration is complete.*"

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require a wireless communication system comprising: a mobile switching center and a plurality of base stations capable of communicating with a plurality of mobile stations; and an apparatus for providing mobile station registration comprises: at least one base station that is capable of receiving at least one mobile station registration message initiated from at least one mobile station; and at least one mobile station that is capable of sending at least one mobile station registration message to least one base station, disclosed by Sayeedi, apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station*

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registration is complete, as taught by Bonta, to order to insure the successful delivery of incoming calls to the mobile user.

As to **claim 15**, Sayeedi discloses a wireless communications system 100, reading on claimed "wireless communication system," comprising a mobile switching center 132, base stations 106, 138, reading on claimed "at least two base stations," and a mobile station 102 (Figure 1, para. 19-20), reading on claimed "one mobile station." Sayeedi also discloses an apparatus includes a base station that receives a registration request from the network that requests that the mobile station be instructed to register, transmits a registration order to the mobile station that instructs the mobile station to register with the network, receives a registration message from the mobile station, conveys a location update request to the network that requests an update of a location of the mobile station, and receives, from the network, a location update confirmation message that confirms an updating of the location of the mobile station (para. 15), reading on claimed "apparatus for providing mobile station registration, wherein the apparatus comprises: at least one base station that is capable of receiving at least one mobile station registration message from at least one mobile station; and at least one mobile station that is capable of sending at least one mobile station registration message to least one base station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132 (para. 30), reading on claimed "registering said at least one mobile station in said mobile switching center of said wireless communication system."

Sayeedi also discloses each BS 106, 138 provides communications services via a forward link 150 and a reverse link 158 to mobile stations located in a coverage area serviced by the BS (para. 19). Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common

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signaling channel (r-csch) 160 back to BS 106 (para. 27). However, Sayeedi fails to disclose an apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station registration is complete*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

In the same field of endeavor, Bonta teaches relaying information within an ad-hoc cellular network (paragraph 1). Bonta also teaches upon receipt of the registration message from the slave mobile unit, all relay nodes, also reading on claimed "apparatus," will attempt to send a cellular registration message directly to infrastructure equipment 106 and this registration message will include the mobile identity (IMSI or TMSI) of the out-of-coverage mobile unit embedded within it's own LOCATION UPDATE message (paragraph 29), reading on claimed "apparatus for providing mobile station registration." Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for delivery via the traffic channel (paragraph 31) and when infrastructure equipment 106 receives the registration message, it will record the registration information in database 203 (step 313), reading on claimed "apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station registration is complete*."

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the wireless communication system and apparatus for use in a wireless communication system comprising a mobile switching center, at least two base stations and at least one mobile station, an apparatus for providing mobile station registration, wherein the apparatus comprises: at least one base station that is capable of receiving at least one mobile station registration message initiated from at least one mobile station; and at least one mobile station that is capable of sending at least one mobile station registration message to least one base station, disclosed by Sayeedi, apparatus for providing mobile station registration *in a traffic channel*; at least one base station that is capable of receiving *in a traffic channel* at least one mobile station registration *initiated* from at least one mobile station; at least one mobile station that is capable of sending *in a traffic channel* at least one mobile station registration message to least one base station *before the mobile station registration is complete*, as taught by Bonta, to order to insure the successful delivery of incoming calls to the mobile user.

As to **claims 2 and 9**, Sayeedi and Bonta teach everything as applied in claims 1 and 8 and Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "said at least one base station is capable of receiving a registration message from said at least one mobile station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, and the location update request informs of a location of the MS sourcing the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in the Registration message (para. 30), reading on claimed "said at least one base station is capable of causing said mobile

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switching center to register said at least one mobile station in said wireless communication system." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "said at least one base station is capable of sending a registration accepted order to said at least one mobile station."

Sayeedi discloses everything as stated above; however, Sayeedi fails to disclose the base station is capable of receiving a registration message *in a reverse traffic channel* and said at least one base station is capable of sending a registration accepted order to said at least one mobile station *in a forward traffic channel*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for delivery via the traffic channel (paragraph 31). Bonta also teaches when infrastructure equipment 106 receives the registration message it will record the registration information in database 203 (step 313) (paragraph 32), reading on claimed "said at least one base station is capable of receiving *in a reverse traffic channel* a registration message from said at least one mobile station." Bonta also teaches infrastructure equipment 106 will reply to the relay nodes with a registration acknowledgement (paragraph 32). Bonta also teaches if the relay nodes receives a registration acknowledge from infrastructure equipment 106, they must encapsulate the message in an ad-hoc signaling frame and send it to the out-of-coverage mobile unit

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(paragraph 33), reading on claimed "said at least one base station is capable of sending a registration accepted order to said at least one mobile station *in a forward traffic channel*."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and wireless communication system, as taught by Sayeedi and Bonta, said at least one base station is capable of causing said mobile switching center to register said at least one mobile station in said wireless communication system, also disclosed by Sayeedi, said at least one base station is capable of receiving *in a reverse traffic channel* a registration message from said at least one mobile station and said at least one base station is capable of sending a registration accepted order to said at least one mobile station *in a forward traffic channel*, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

As to **claims 3 and 10**, Sayeedi and Bonta teach everything as applied in claims 1-2 and 8-9 and Sayeedi further discloses upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 and the registration order instructs MS 102 to register with RAN 104 and preferably is a Registration Request Order message (para. 26), reading on claimed "said mobile switching center capable of causing a registration request message to be sent to said at least one mobile station."

Sayeedi discloses everything as stated above; however, Sayeedi fails to disclose the registration request message to be sent to said at least one mobile station in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches infrastructure equipment 106 formats and sends the relay node an encapsulated page message containing the paged mobile unit's identification via the relay

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node's assigned traffic channel (paragraph 61), reading on claimed "the registration request message to be sent to said at least one mobile station in a traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and wireless communication system, as taught by Sayeedi and Bonta, said mobile switching center capable of causing a registration request message to be sent to said at least one mobile station, as taught by Sayeedi, the registration request message to be sent to said at least one mobile station in a traffic channel, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

As to **claims 4 and 11**, Sayeedi and Bonta teach everything as applied in claims 1 and 8 and Sayeedi also discloses each BS of the multiple BS's 106, 138 includes multiple base transceiver stations (BTS's) 108, 110 (two shown) and a timer 113 that are each operably coupled to a base station controller (BSC) 112 (para. 19), reading on claimed "least one base station comprises a traffic channel registration controller." Sayeedi also discloses each BS 106, 138 provides communications services via a forward link 150 and a reverse link 158 to mobile stations located in a coverage area serviced by the BS (para. 19) and upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 (para. 26), reading on claimed "sending mobile station registration messages to said at least one mobile station." Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "receiving mobile station registration messages from said at least one mobile station."

However, Sayeedi fails to disclose sending and receiving the mobile station registration message in a traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for delivery via the traffic channel (paragraph 31). Bonta also teaches when infrastructure equipment 106 receives the registration message it will record the registration information in database 203 (step 313) (paragraph 32), reading on claimed "sending and receiving the mobile station registration message in a traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and wireless communication system, as taught by Sayeedi and Bonta, least one base station comprises a traffic channel registration controller capable of: sending mobile station registration messages to said at least one mobile station and receiving mobile station registration messages from said at least one mobile station, as disclosed by Sayeedi, sending and receiving the mobile station registration message in a traffic channel, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

As to **claims 5 and 12**, Sayeedi, and Bonta teach everything as applied in claims 1, 8, 4, and 11 and Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "said traffic channel registration controller is capable of receiving a registration message from said at least one mobile station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132 (para. 30), reading on claimed "said traffic channel registration

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controller is capable of causing said mobile switching center to register said at least one mobile station in said wireless communication system.” Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period, T.sub.3210, from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed “traffic channel registration controller is capable of sending a registration accepted order to said at least one mobile station.”

Sayeedi discloses everything as stated above; however, he fails to disclose receiving in a reverse traffic channel a registration request message and sending a registration accepted order in a forward traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for delivery via the traffic channel (paragraph 31). Bonta also teaches when infrastructure equipment 106 receives the registration message it will record the registration information in database 203 (step 313) (paragraph 32), reading on claimed “receiving in a reverse traffic channel a registration request message.” Bonta also teaches if the relay nodes receives a registration acknowledge from infrastructure equipment 106, they must encapsulate the message in an ad-hoc signaling frame and send it to the out-of-coverage mobile unit (paragraph 33), reading on claimed “sending a registration accepted order in a forward traffic channel.”

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and wireless communication system, as taught by Sayeedi

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and Bonta, said traffic channel registration controller is capable of receiving a registration message from said at least one mobile station; said traffic channel registration controller is capable of causing said mobile switching center to register said at least one mobile station in said wireless communication system; traffic channel registration controller is capable of sending a registration accepted order to said at least one mobile station, as taught by Sayeedi, receiving in a reverse traffic channel a registration request message and sending a registration accepted order in a forward traffic channel, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

As to **claims 6 and 13**, Sayeedi and Bonta teach everything as applied in claims 1 and 4-5 and Sayeedi further discloses upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 and the registration order instructs MS 102 to register with RAN 104 and preferably is a Registration Request Order message (para. 26), reading on claimed "mobile switching center is capable of sending a registration message to said traffic channel registration controller for forwarding to said at least one mobile station."

Sayeedi discloses everything as stated above; however, he fails to disclose for forwarding to said at least one mobile station *in a traffic channel*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches infrastructure equipment 106 formats and sends the relay node an encapsulated page message containing the paged mobile unit's identification via the relay node's assigned traffic channel (paragraph 61), reading on claimed "forwarding to said at least one mobile station *in a traffic channel*."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the apparatus and wireless communication system, as taught by Sayeedi

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and Bonta, mobile switching center is capable of sending a registration message to said traffic channel registration controller for forwarding to said at least one mobile station, also disclosed by Sayeedi, forwarding to said at least one mobile station *in a traffic channel*, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

As to **claims 7 and 14**, Sayeedi and Bonta teach everything as applied in claims 1 and 4-6 and Sayeedi further discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, the location update request informs of a location of the MS sourcing the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in the Registration message (para. 30), reading on claimed "least one base station is capable of sending a location update request message to said mobile switching center." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "receiving a location update acceptance message from said mobile switching center."

As to **claim 16**, Sayeedi and Bonta teach everything as applied in claim 15 and Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "sending a registration message from said at least one mobile station to said at least one base station." Sayeedi also discloses when BS 106

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receives the location update confirmation message prior to an expiration of a second predetermined time period, T.sub.3210, from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "sending a registration accepted order message from said at least one base station to said at least one mobile station."

Sayeedi discloses everything as stated above; however, he fails to disclose sending a registration message on a reverse traffic channel and sending a registration accepted order message on a forward traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for delivery via the traffic channel (paragraph 31). Bonta also teaches when infrastructure equipment 106 receives the registration message it will record the registration information in database 203 (step 313) (paragraph 32), reading on claimed "sending a registration message on a reverse traffic channel." Bonta also teaches if the relay nodes receives a registration acknowledge from infrastructure equipment 106, they must encapsulate the message in an ad-hoc signaling frame and send it to the out-of-coverage mobile unit (paragraph 33), reading on claimed "sending a registration accepted order message on a forward traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, as taught by Sayeedi and Bonta, sending a registration message from said at least one mobile station to said at least one base station, sending a registration accepted order message from said at least one base station to said at least one

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mobile station, as taught by Sayeedi, sending a registration message on a reverse traffic channel and sending a registration accepted order message on a forward traffic channel, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

As to **claim 17**, Sayeedi and Bonta teach everything as applied in claim 15 and Bonta teaches everything as applied in claim 16; Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, the location update request informs of a location of the MS sourcing the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in the Registration message (para. 30), reading on claimed "sending a location update request message from said at least one base station to said mobile switching center after said at least one base station receives said registration request message from said at least one mobile station." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "receiving in said at least one base station a location update acceptance message from said mobile switching center before said at least one base station sends a registration accepted order message to said at least one mobile station."

As to **claim 18**, Sayeedi and Bonta teach everything as applied in claim 15 and Sayeedi further discloses upon receiving a registration request from MSC 132, BS 106 transmits (208) a registration order on paging channel 152 or forward signaling channel 154 to MS 102 and the

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registration order instructs MS 102 to register with RAN 104 and preferably is a Registration Request Order message (para. 26), reading on claimed "sending a registration request message from a mobile switching center to said at least one base station and sending said registration request message from said at least one base station to said at least one mobile station."

Sayeedi discloses everything as stated above; however, Sayeedi fails to disclose the registration request message to be sent to said at least one mobile station in a forward traffic channel. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches infrastructure equipment 106 formats and sends the relay node an encapsulated page message containing the paged mobile unit's identification via the relay node's assigned traffic channel (paragraph 61), reading on claimed "the registration request message to be sent to said at least one mobile station in a forward traffic channel."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, as taught by Sayeedi and Bonta, sending a registration request message from a mobile switching center to said at least one base station and sending said registration request message from said at least one base station to said at least one mobile station, as disclosed by Sayeedi, the registration request message to be sent to said at least one mobile station in a forward traffic channel, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

As to **claim 19**, Sayeedi and Bonta teach everything as applied in claims 15 and 18 and Sayeedi also discloses upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "in response to receiving said registration

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request message from said at least one base station, sending a registration message from said at least one mobile station to said at least one base station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132, and the location update request informs of a location of the MS sourcing the request, that is, MS 102, based on the location provided by the MS in the Registration message and requests that MSC 132 update a location of MS 102 to the location provided in the Registration message (para. 30), reading on claimed "sending a location update request message from said at least one base station to said mobile switching center." Sayeedi also discloses when BS 106 receives the location update confirmation message prior to an expiration of a second predetermined time period, reading on claimed "receiving in said at least one base station a location update acceptance message from said mobile switching center," from the time that the BS transmitted the location update request, BS 106 stops (216) location update timer 113 and transmits (220), to MS 102 via forward common signaling channel (f-csch) 154, a registration confirmation message that confirms that the registration message of MS 102 has been accepted by RAN 104 and that a location of the MS has been updated (para. 34), reading on claimed "sending a registration accepted order message from said at least one base station said at least one mobile station."

Sayeedi discloses everything as stated above; however, Sayeedi fails to disclose receiving said registration request message *in a forward traffic channel*, sending a registration message *in a reverse traffic channel*, sending a registration accepted order message *in a forward traffic channel*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for

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delivery via the traffic channel (paragraph 31). Bonta also teaches when infrastructure equipment 106 receives the registration message it will record the registration information in database 203 (step 313) (paragraph 32), reading on claimed "sending a registration message *in a reverse traffic channel*." Bonta also teaches infrastructure equipment 106 will reply to the relay nodes with a registration acknowledgement (paragraph 32). Bonta also teaches if the relay nodes receives a registration acknowledge from infrastructure equipment 106, they must encapsulate the message in an ad-hoc signaling frame and send it to the out-of-coverage mobile unit (paragraph 33), reading on claimed "sending a registration accepted order to said at least one mobile station *in a forward traffic channel*." Bonta also teaches infrastructure equipment 106 formats and sends the relay node an encapsulated page message containing the paged mobile unit's identification via the relay node's assigned traffic channel (paragraph 61), reading on claimed "receiving said registration request message *in a forward traffic channel*."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, as taught by Sayeedi and Bonta, in response to receiving said registration request message from said at least one base station, sending a registration message from said at least one mobile station to said at least one base station, sending a location update request message from said at least one base station to said mobile switching center, receiving in said at least one base station a location update acceptance message from said mobile switching center, sending a registration accepted order message from said at least one base station said at least one mobile station, as disclosed by Sayeedi, sending a registration message *in a reverse traffic channel*, sending a registration accepted order to said at least one mobile station *in a forward traffic channel*, receiving said registration request

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message *in a forward traffic channel*, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

As to **claim 20**, Sayeedi and Bonta teach everything as applied in claim 15 and Sayeedi also discloses each BS of the multiple BS's 106, 138 includes multiple base transceiver stations (BTS's) 108, 110 (two shown) and a timer 113 that are each operably coupled to a base station controller (BSC) 112 (para. 19), reading on claimed "traffic channel registration controller," and upon receiving the registration order, MS 102 then registers with RAN 104 by transmitting (210) a registration message on reverse common signaling channel (r-csch) 160 back to BS 106 (para. 27), reading on claimed "sending from said at least one mobile station at least one mobile station registration message to a traffic channel registration controller in at least one base station." Sayeedi also discloses upon receiving the registration message, BS 106 transmits (212) a location update request to the downstream entity that initiated the registration process, that is, MSC 132 (para. 30), reading on claimed "receiving in said traffic channel registration controller in said at least one base station said at least one mobile station registration message sent from said at least one mobile station and using said traffic channel registration controller to cause said mobile switching center to register said at least one mobile station in said wireless communication system."

Sayeedi discloses everything as stated above; however, Sayeedi fails to disclose sending from said at least one mobile station at least one mobile station registration message *in a traffic channel*, and receiving in said traffic channel registration controller in said at least one base station said at least one mobile station registration message *in a traffic channel*. The Examiner contends this feature was old and well known in the art at the time of invention as taught by Bonta.

Bonta also teaches if the call processing state of the relay is conversation (i.e. it already has a traffic channel assignment), then a unique registration message will be prepared for delivery via the traffic channel (paragraph 31). Bonta also teaches when infrastructure equipment 106 receives the registration message it will record the registration information in database 203 (step 313) (paragraph 32), reading on claimed "sending from said at least one mobile station at least one mobile station registration message *in a traffic channel*" and "receiving in said traffic channel registration controller in said at least one base station said at least one mobile station registration message *in a traffic channel*"

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to require the method, as taught by Sayeedi and Bonta, sending from said at least one mobile station at least one mobile station registration message to a traffic channel registration controller in at least one base station, receiving in said traffic channel registration controller in said at least one base station said at least one mobile station registration message sent from said at least one mobile station and using said traffic channel registration controller to cause said mobile switching center to register said at least one mobile station in said wireless communication system, as disclosed by Sayeedi, sending from said at least one mobile station at least one mobile station registration message *in a traffic channel* and receiving in said traffic channel registration controller in said at least one base station said at least one mobile station registration message *in a traffic channel*, as taught by Bonta, in order to insure the successful delivery of incoming calls to the mobile user.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olivia Marsh whose telephone number is 571-272-7912. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**CHARLES APPIAH
PRIMARY EXAMINER**